Road Side

Overview

Even excellent drivers occasionally make errors or find themselves in situations where their vehicles must leave the roadway. Because 30% of all traffic fatalities are caused by collisions with fixed objects on the side of the road, highway engineers have developed strategies to help reduce and lessen the severity of these of crashes. Keeping roadsides clear can give drivers the opportunity to regain control of their vehicles without hitting a roadside obstacle. In addition, hazards may be moved, redesigned, or shielded. This is the Forgiving Highway Concept.

Clear Zone

Traveling on the highway, you may have noticed a clear zone beyond the shoulder that is flat, wide, and free of hazardous objects. Wherever possible, especially on freeways where drivers travel at high speeds, the area beyond the shoulder is kept as clear as possible of potential hazards such as trees, utility poles, sign posts, and embankments. While it may be impossible in some cases to construct a roadside that is completely clear of hazards, roadside hazards are eliminated wherever possible.

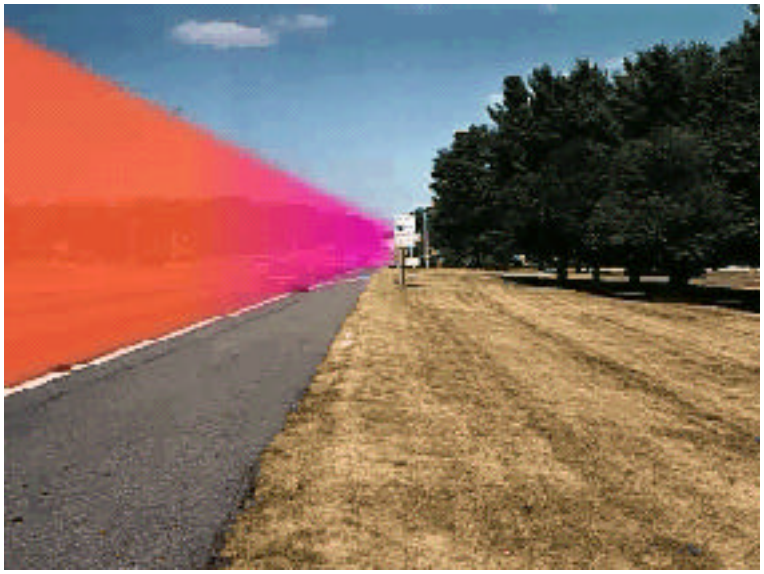
Crash Cushions

Fixed objects on or by the side of the road, such as bridge piers, overhead sign supports, or rock outcroppings, can pose a serious risk to drivers. One way to protect errant drivers is to shield them from the object with crash cushions. For example, clusters of sand filled barrels are often used to shield fixed objects such as a concrete bridge support. Crushable foam-filled cartridges are also used. These crash cushions work to decelerate the impact vehicle and lessen the severity of a crash.

Barriers

Several types of barriers are used to keep motorists from leaving the highway and striking a potential hazard. A guardrail is commonly used on the side of the road. In addition, concrete or water-filled barriers are used on highways and in work zones to help prevent motorists from crossing the median into oncoming traffic, and to protect construction workers. These barriers can also safely redirect an errant vehicle back onto the roadway.

Future



To improve roadside safety, engineers are developing roadside devices, such as electronic sensors, along road boundaries, that can interact with motor vehicles to alert drivers that they are leaving the roadway. These early warning devices will give the driver time to make a correction and return safely to the highway.